REMARKS

I. Claims 1, 3-9, 11-15 and 17-18 Are Allowable

The Office has rejected claims 1, 3-9, 11-15 and 17-18, at paragraph 2 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,870,836 ("Dyke") in view of U.S. Patent No. 6,608,874 ("Beidas"). Applicant respectfully traverses the rejections.

A. Claims 1 and 3-8

The cited portions of Dyke and Beidas fail to disclose or suggest the specific combination of claim 1. For example, the cited portions of Dyke do not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal to include an Internet Protocol (IP) signal to form a combined ATM/IP signal, as recited in claim 1. In contrast to claim 1, Dyke discloses a point-to-multipoint optical transmission system, which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Accordingly, the cited portions of Dyke do not disclose forming a combined ATM/IP signal wherein the IP signal is encoded from an original IP signal format to form a combined ATM/IP signal, as recited in claim 1. Further, the cited portions of Beidas do not disclose this element of claim 1. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, the cited protions of Beidas do not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal to include an Internet Protocol (IP) signal to form a combined ATM/IP signal, as recited in claim 1. Therefore, the cited portions of Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 1. Hence, claim 1 is allowable.

Claims 3-8 depend from claim 1, which Applicant has shown to be allowable. Accordingly, claims 3-8 are also allowable, at least by virtue of their dependence from claim 1.

Further, the dependent claims recite additional features not disclosed by the cited protions of Dyke and Beidas. For example, the cited portions of Beidas do not disclose that the phase modulating encodes multiple bits of the IP signal per pulse in the ATM signal, as in claim 3. Instead, Beidas discloses transmissions of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 3 is allowable.

B. Claims 9 and 11

The cited portions of Dyke and Beidas fail to disclose or suggest the specific combination of claim 9. For example, the cited portions of Dyke do not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal to include the IP signal encoded from an original IP signal format and then communicating the combined ATM/IP signal to multiple locations via the PON, as in claim 9. In contrast to claim 9, the cited portions of Dyke disclose a point-to-multipoint optical transmission system, which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Claim 9 states that the IP traffic, rather than transmitted in its native format, is transmitted in an encoded format combined with the ATM signal. Accordingly, the cited portions of Dyke do not disclose generating a combined ATM/IP signal by phase modulating the ATM signal including the encoded IP signal, as in claim 9. Further, the cited portions of Beidas do not disclose this element of claim 9. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, the cited portions of Beidas do not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal to include the IP signal and communicating the combined ATM/IP signal to multiple locations via the PON, as in claim 9. Therefore, the cited portions of Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 9. Hence, claim 9 is allowable.

Claim 11 depends from claim 9, which Applicant has shown to be allowable. Hence, the cited portions of Dyke and Beidas fail to disclose at least one element of claim 11. Accordingly, claim 11 is also allowable, at least by virtue of its dependence from claim 9.

Further, the dependent claim recites additional features not disclosed by the cited portions of Dyke and Baidas. For example, the cited portions of Beidas do not disclose that the phase modulating encodes two bits of the IP signal per pulse in the ATM signal, as in claim 11. Instead, Beidas discloses transmission of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 11 is allowable.

C. Claims 12 and 13-14

The cited portions of Dyke and Beidas fail to disclose or suggest the specific combination of claim 12. For example, the cited portions of Dyke do not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream and to convert the IP stream to a prior IP signal format, as recited in claim 12. In contrast to claim 12, the cited portions of Dyke disclose a point-to-multipoint optical transmission system that enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. Converting to the previously encoded IP stream, as recited in claim 12, indicates that the transmission of the IP stream was in a non-native format. Accordingly, the cited portions of Dyke do not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream, as recited in claim 12. Further, the cited portions of Beidas do not disclose this element of claim 12. Instead, Beidas discloses transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the intersymbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Accordingly, the cited portions of Beidas do not disclose a phase demodulator to phase demodulate a combined ATM/IP signal to extract an IP stream, as in claim 12. Therefore, the cited portions of Dyke and

Beidas, separately or in combination, do not disclose each and every element of claim 12. Hence, claim 12 is allowable.

Claims 13 and 14 depend from claim 12, which Applicant has shown to be allowable. Accordingly, claims 13 and 14 are also allowable, at least by virtue of their dependence from claim 12.

D. Claims 15 and 17-18

The cited portions of Dyke and Beidas fail to disclose or suggest the specific combination of claim 15. For example, the cited portions of Dyke do not disclose a phase modulator to phase modulate an ATM signal to include an IP signal encoded from an original IP signal format to form a combined ATM/IP signal, as recited in claim 15. In contrast to claim 15, the cited portions of Dyke disclose a point-to-multipoint optical transmission system which enables the transfer of IP traffic in its native format over a passive optical network (PON). *See* Dyke, column 6, lines 38-40. The encoding of the IP stream, as in claim 15, indicates that the IP signal, as combined with the ATM signal, is in a non-native format. Accordingly, the cited portions of Dyke do not disclose a phase modulator to phase modulate an ATM signal to include an IP signal to form a combined ATM/IP signal, as in claim 15. Further, the cited portions of Beidas do not disclose this element of claim 15. Instead, the cited portions of Beidas disclose transmission of a modulated signal comprised of multiple pulses that interfere with one another in time or frequency. *See* Beidas, column 2, lines 37-41. The demodulator of Beidas suppresses the inter-symbol and cross-symbol interference of the modulated signal to recover the transmitted pulses and underlying data signals. *See* Beidas, column 12, lines 35-40. Therefore, the cited portions of Dyke and Beidas, separately or in combination, do not disclose each and every element of claim 15. Hence, claim 15 is allowable.

Claims 17 and 18 depend from claim 15, which Applicant has shown to be allowable. Accordingly, claims 17 and 18 are also allowable, at least by virtue of their dependence from claim 15.

Further, the dependent claims recite additional features not disclosed by the cited portions of Dyke and Beidas. For example, the cited portions of Beidas do not disclose that the phase modulator encodes multiple bits of the IP signal per pulse in the ATM signal, as in claim 17. Instead, Beidas discloses transmission of a modulated signal having interfering pulses to a receiver, which is capable of demodulating the modulated signal and compensating for the interference. *See* Beidas, column 2, lines 36-41. For this additional reason, claim 17 is allowable.

II. Claims 2, 10 and 16 Are Allowable

The Office has rejected claims 2, 10 and 16, at paragraph 3 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,870,836 ("Dyke") in view of U.S. Patent No. 6,608,874 ("Beidas") and further in view of U.S. Patent No. 3,701,106 ("Loshbough"). Applicant respectfully traverses the rejections.

A. Claim 2

As explained above, the cited portions of Dyke and Beidas do not disclose each of the elements of claim 1. The cited portions of Loshbough do not disclose the elements of claim 1 that are not disclosed by the cited portions of Dyke and Beidas. For example, the cited portions of Loshbough do not disclose phase modulating an Asynchronous Transfer Mode (ATM) signal to include an Internet Protocol (IP) signal encoded from an original IP signal format to form a combined ATM/IP signal, as in claim 1. In contrast to claim 1, Loshbough discloses a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, the cited portions of Loshbough do not disclose phase modulating the ATM signal to include the encoded IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as in claim 2. Therefore, the cited portions of Dyke, Beidas and Loshbough, separately or in combination, do not disclose each and every element of claim 1, or of claim 2, which depends from claim 1. Hence, claim 2 is allowable.

B. Claim 10

As explained above, the cited portions of Dyke and Beidas do not disclose each of the elements of claim 9. The cited portions of Loshbough do not disclose the elements of claim 9 that are not disclosed by Dyke and Beidas. For example, the cited portions of Loshbough do not disclose generating, at the optical line terminal (OLT), a combined ATM/IP signal by phase modulating the ATM signal to include the IP signal encoded from an original IP signal format and communicating the combined ATM/IP signal to multiple locations via the PON, as in claim 9. In contrast to claim 9, the cited portions of Loshbough disclose a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, the cited portions of Loshbough do not disclose phase modulating the ATM signal to include the encoded IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as in claim 10. Therefore, the cited portions of Dyke, Beidas and Loshbough, separately or in combination, do not disclose each and every element of claim 9, or of claim 10, which depends from claim 9. Hence, claim 10 is allowable.

C. Claim 16

As explained above, the cited portions of Dyke and Beidas do not disclose each of the elements of claim 15. The cited portions of Loshbough do not disclose the elements of claim 15 that are not disclosed by the cited portions of Dyke and Beidas. For example, the cited portions of Loshbough do not disclose a phase modulator to phase modulate an ATM signal to include an IP signal to form a combined ATM/IP signal, as in claim 15. In contrast to claim 15, the cited portions of Loshbough disclose a detection device for sensing change in data, such as a motion detecting device, which has digitally variable sensitivities. *See* Loshbough, column 1, lines 44-49. Further, the cited portions of Loshbough do not disclose to phase modulate the ATM signal to include the IP signal without exceeding a specified tolerance of symbol period of the ATM signal, as recited in claim 16. Therefore, the cited portions of Dyke, Beidas and Loshbough, separately or in combination, do not disclose each and every element of claim 15, or of claim 16, which depends from claim 15. Hence, claim 16 is allowable.

CONCLUSION

Applicant has pointed out specific features of the claims not disclosed, suggested, or rendered obvious by the cited portions of the cited references as applied in the Office Action. Accordingly, Applicant respectfully requests reconsideration and withdrawal of each of the rejections, as well as an indication of the allowability of each of the pending claims.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

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Date

Jeffrey G. Toler, Reg. No. 38,342
Attorney for Applicant
Toler Law Group, Intellectual Properties
8500 Bluffstone Cove, Suite A201
Austin, Texas 78759
(512) 327-5515 (phone)
(512) 327-5575 (fax)